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| COLLARD & ROE, P.C. 1077 NORTHERN BOULEVARD ROSLYN, NY 11576 | | | EXAMINER STREGE, JOHN B | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/723,540

Applicant(s)

MICHAELIS ET AL.

Examiner

John B. Strege

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8, 10 and 12-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8, 10 and 12-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

1. The amendment received 11/23/07 has been entered in full.

Response to Arguments

2. Applicant's arguments filed 11/23/07 have been fully considered but they are not persuasive. The Examiner objected claim 7 in the previous office action as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. However claim 8 and claim 12 in the amended application do not have all of the limitations of the original claim 7. Claim 7 was not objected to merely because the limitation of claim 7 was allowable in a vacuum, rather the limitations of claim 7 and claim 1 as a whole were objected to as being allowable. The newly amended claims require additional search and consideration by the Examiner thus this rejection is made final necessitated by the amendment. The arguments of the Applicant are moot in view of the new ground of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 8, and 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Arai et al. USPN 5,929,906 (hereinafter "Arai").

Regarding claim 8, Arai discloses an apparatus for forming image forming data to be reproduced (col. 1 lines 5-20, col 2 lines 38-45), comprising:

neural nets spatially coupling pixel values of different color channels of image data to be reproduced implemented on a predetermined circuit, comprising parameters established by a learning process on the basis of a test image of predetermined quality (figure 11, col. 2 lines 46-60),

image inputting means feeding N^2 neural nets for N color channels, with output of the neural nets being added and connected to inputs of the picture elements of an image reproduction device ((as seen in figure 11, 3 color channels [$N=3$] are fed to 15 hidden layers [thus at least $3^2=9$ neural nets are fed from the 3 color channels, reading on the limitations], further as seen in figure 11 there is an addition of outputs of the neural nets from the hidden layer to the output layer);

a storage for image data to be reproduced that connects to inputs of the neural nets and feeds the pixel values of different color channels to the inputs of the neural nets (the color values C,M,Y seen in figure 11 must inherently be stored); and

an image recording device, for generating digital data of an uncorrected image of a test image provided by the image reproduction device, connected to the inputs of the neural nets during the learning process for defining the parameters of the neural nets (10 of figure 1, col. 6 lines 45-53).

Regarding claim 12, Arai discloses a method of defining and at least partially correcting errors of an image reproduction system, said errors being deviations between an image of predetermined quality and its reproduction, such errors being caused by

defects in the image reproduction system and relating to color channels (col. 1 lines 5-21) the method comprising the steps of:

feeding image data to be reproduced to N^2 neuronal nets coupling N color channels, with said reproduction occurring by addition of outputs of the N^2 neuronal nets (as seen in figure 11, 3 color channels [$N=3$] are fed to 15 hidden layers [thus at least $3^2=9$ neuronal nets are fed from the 3 color channels, reading on the limitations], further as seen in figure 11 there is an addition of outputs of the neuronal nets from the hidden layer to the output layer); and

spatially coupling pixel values of the color channels by neuronal networks via space-variant weights (col. 6 line 54 – col. 7 line 35).

Regarding claim 13, Arai discloses capturing a reproduced test image of predetermined quality by an image recording device (col. 2 lines 38-45);

utilizing said captured image as a learning pattern (col. 2 lines 46-60, training is learning);

feeding data representative of an image to be reproduced to the neuronal nets as target data (see figure 11); and

determining parameters of the neuronal nets by a learning process utilizing said learning pattern and said target data (see figure 11, col. 2 lines 46-60).

Regarding claim 14, Arai discloses operating an image reproduction device on the basis of the data processed by the neuronal nets, implemented by a computer (col. 2 lines 38-45).

Regarding claim 15, Arai discloses deriving target data for the neuronal nets from digitized data of an original image to be reproduced;
capturing a reproduced uncorrected test image by an image recording device;
and
training the neuronal nets with data produced by said image recording device and said target data (see figure 1).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arai.

Regarding claim 10, Arai does not explicitly disclose the image forming quality of the image recording device is superior to the image forming quality of the image reproduction device, however it would be obvious to one of ordinary skill in the art that this is a matter of design choice. The motivation for doing so would be to compensate for the loss of quality when making a reproduced image from an original.

Claim 16 is similarly analyzed to claim 10.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John B. Strege whose telephone number is (571) 272-7457. The examiner can normally be reached on Monday-Friday between the hours of 8-5.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JS


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